

page 19, and page 8, lines 9-11, of the specification and in the original claims. No new matter is believed to be introduced by the above amendment.

#### REMARKS

Claims 41-54, 57-67, and 69-82 are pending. Favorable reconsideration is respectfully requested.

At the outset, Applicants thank Examiner Idebrando for the helpful and courteous discussion of the present application held September 4, 2002, and for indicating that Claims 57-67 are allowable.

The rejections of Claims 41-43 and 45-56 under 35 U.S.C. §102(b) over Oleck et al (U.S. 6,456,655), Ward (U.S. 5,275,720), and/or La Pierre et al. (EP 0 094 827) is believed to be obviated by the above amendment. Further, all of the pending claims are not anticipated or suggested by this reference because Oleck et al, Ward, and La Pierre et al. fail to disclose or suggest the claimed catalyst composition.

The claimed invention is a catalyst containing a beta zeolite, cobalt, a metal of group VIB and optionally one or more oxides as a carrier (See Amended Claim 41, lines 1-2). Further, the claimed invention relates to a process of making a catalyst containing a beta zeolite, a metal of Group VIII, a metal of group VIB and optionally one or more oxides as a carrier (See Claim 70, lines 1-3). In one aspect of the claimed invention, the claimed catalyst may have a surface area of  $\geq 380 \text{ m}^2/\text{g}$  and a pore volume  $\geq 1.10 \text{ cm}^3/\text{g}$  (See Amended Claim 41, lines 2-3). Tables I and II of the specification demonstrate that the claimed catalyst having a surface area of  $\geq 380 \text{ m}^2/\text{g}$  and a pore volume  $\geq 1.10 \text{ cm}^3/\text{g}$  is superior to catalysts

that have surface area and pore volume parameters outside the claimed range. For the Examiner's convenience, Tables I and II are reproduced below.

Oleck et al fail to disclose or suggest the claimed catalyst having a surface area of  $\geq 380 \text{ m}^2/\text{g}$  and a pore volume  $\geq 1.10 \text{ cm}^3/\text{g}$  and claimed method. The catalyst according to Oleck et al has a pore volume ranging from 0.4 to 1.0  $\text{cm}^3/\text{g}$  (See column 9. Lines 26-27). Further, Oleck et al disclose only one example which has a surface area  $206 \text{ m}^2/\text{g}$  and a pore volume of  $0.494 \text{ cm}^3/\text{g}$  (See Example 1, Table 1).

Ward fails to disclose or suggest the claimed catalyst having a surface area of  $\geq 380 \text{ m}^2/\text{g}$  and a pore volume  $\geq 1.10 \text{ cm}^3/\text{g}$  and claimed method. In fact, Ward fails to disclose any surface area and pore size parameters of their catalysts whatsoever.

La Pierre et al. fails to disclose or suggest the claimed catalyst having a surface area of  $\geq 380 \text{ m}^2/\text{g}$  and a pore volume  $\geq 1.10 \text{ cm}^3/\text{g}$  and claimed method. In fact, La Pierre et al. fails to disclose any surface area and pore size parameters of their catalysts whatsoever.

The claimed catalyst is exemplified at pages 15-17 of the specification (See Examples A and B), and compared to those catalysts having a pore size and surface area outside the claimed pore size and surface area parameters (See Examples C-F). Further, pages 19-22 and Tables 1 and 2, of the specification disclose that the claimed catalyst have superior properties over the comparative examples. Tables 1 and 2 are reproduced below for the Examiner's convenience.

TABLE 1

Catalyst	Zeolite (w%)	Co (w%)	Mo (w%)	Co/Mo (mol)	A <sub>surf</sub> ( $\text{m}^2/\text{g}$ )	V <sub>pores</sub> ( $\text{cm}^3/\text{g}$ )
A	9.0 beta	2.2	8.1	0.44	380	1.10
B	19.6 beta	2.5	8.2	0.49	465	1.24
C	--	2.3	8.9	0.42	360	0.74
D	--	6.8	18.1	0.61	430	0.72
E	7.4 ZSM-5	2.8	10.5	0.45	410	1.05
F	--	3.2	12.0	0.43	245	0.51

TABLE 2

CATALYST	T (°C)	WHSV (hrs <sup>-1</sup> )	HDS (%)	ISO (%)	HDS/HYD	HYD/ISO
A	256	4.3	84.1	15.5	2.1	2.6
A	295	10.0	96.9	14.7	1.7	3.9
C	254	6.6	91.0	2.5	1.2	29.9
C	282	6.6	92.7	2.5	0.9	40.4
D	273	3.9	88.0	0.7	1.0	120.95
D	290	3.9	95.0	0.7	1.05	127.9
E	254	3.3	40.3	13.3	0.7	4.5
F	250	4.0	89.7	2.5	2.4	15.0

The claimed catalyst has an isomerization activity (ISO) that is about one order of magnitude greater than the comparative catalysts containing pore size and surface area parameters outside the claimed pore size and surface area parameters (See Table 2). Moreover, the claimed catalysts generally have an increased hydrodesulfuration conversion with respect to the hydrogenating property (HDS/HYD) (See Table 2). Finally, the claimed catalysts have an decreased hydrogenating property (HYD) with respect to the hydrodesulfuration conversion with respect to the isomerizing activity (HYD/ISO) (See Table 2). Taken together, the results provided in Table 2, clearly demonstrate that the claimed catalyst are superior to those catalysts containing pore size and surface area parameters outside the claimed pore size and surface area parameters.

Oleck et al, Ward, and/or La Pierre et al fail to disclose or suggest the claimed catalyst composition because none of Oleck et al, Ward, and/or La Pierre et al disclose or suggest a catalyst having a surface area of  $\geq 380 \text{ m}^2/\text{g}$  and a pore volume  $\geq 1.10 \text{ cm}^3/\text{g}$ . Accordingly, withdrawal of these grounds of rejection is respectfully requested.

Applicants respectfully submit that the present application is now in condition for allowance. Early notice to this effect is respectfully requested. Should anything further be required to place this application in condition for allowance, the Examiner is requested to contact the undersigned by telephone.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



Norman F. Oblon  
Attorney of Record  
Registration No. 24,618

Richard L. Treanor, Ph.D.  
Registration No. 36,379



**22850**

(703) 413-3000  
Fax #: (703) 413-2220  
NFO/RLT/TWB:twb  
I:\atty\Twb\22640315-AM-c.wpd

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HEREWITH

IN THE CLAIMS

--Claims 32, 55-56, and 68 are cancelled.--

Please amend the claims as follows:

--41. (Amended) A catalytic composition, comprising a beta zeolite, cobalt, a metal of group VIB and optionally one or more oxides as a carrier wherein said catalyst has a surface area of  $\geq 380 \text{ m}^2/\text{g}$  and a pore volume  $\geq 1.10 \text{ cm}^3/\text{g}$ .--

--Claims 69-82 are new.--